

**REMARKS**

Claims 1-4, 6-10, 12-22, 24-60, and 62-77 are currently pending in the subject application and are presently under consideration. Claims 2, 4, 12, 22, 25, 28-30, 40-43, 45, 47-56, 58, 63, 64, and 66-70 have been canceled, and Claims 1, 9, 20, 24, 26, 27, 44, 46, 57, 62, 65, and 71-75 have been amended as shown on pp. 2-12 of the Reply.

Applicants' representative, John Bradley, thanks the examiner for the courtesies extended during the personal interview conducted on 2/25/09. The cited art, the claims, and herein amendments that are believed will expedite favorable prosecution were discussed.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

**I. Rejection of Claims 1-4, 6-10, 12-22, 24-60, and 62-77 Under 35 U.S.C. §102(b)**

Claims 1-4, 6-10, 12-22, 24-60, and 62-77 stand rejected under 35 U.S.C. §102(b) as being anticipated by McCann et al. (US 5,740,037), hereinafter McCann. It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. McCann does not disclose each and every limitation of appellants' claimed invention.

A single prior art reference anticipates a patent claim only if it expressly or inherently describes *each and every* limitation set forth in the patent claim. *Trintec Industries, Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 63 USPQ2d 1597 (Fed. Cir. 2002); *See Verdegaaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the ... claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Applicants' claimed subject matter relates generally to a way of adapting a user interface to the current conditions of a user. The system monitors the user, and is capable of presenting different user interface elements to the user depending on the situation the user is in, the equipment available to the user, or other factors. In particular, independent claim 1 recites in part: "...*determining cognitive availability of a user, the cognitive availability is a function of an amount of attention the user uses during a computer-assisted task; determining context of the*

*user, wherein the context of the user is represented by a plurality of context attributes that each model an aspect of the context; automatically selecting, without user intervention, one of the predefined user interfaces, wherein the selection is a function of the determined cognitive availability of the user and the user context...*” McCann does not disclose such features.

The system of McCann provides three very specific versions of one interface to combat soldiers depending upon the situation that they are in. The system uses only one attribute, operational state of the soldier, to determine whether to provide the soldier with the “fight” information, the “caution” information, or the “plan” information. McCann does not determine the value of this attribute automatically, ***without user intervention*** (emphasis added), but rather, is told the value of the attribute by either the soldier, or the soldier’s unit commander (see Col. 7, lines 14-20). McCann does not dynamically determine cognitive ability of the soldier, but rather, has determined in advance that there are three combat situations, and that all soldiers in those situations will receive the same interface. McCann does not take into account any attributes related to the individual soldier, but rather only determines which of the three states of the one attribute applies to the situation. In contrast, applicants’ claimed invention provides a much richer system for supplying interfaces, not limited to a single attribute, or to only three values of any attribute. For at least the foregoing reasons, McCann does not anticipate claim 1.

Independent claim 20 recites: “...*dynamically determining cognitive availability of a user, the cognitive availability is a function of an amount of attention the user uses during a computer-assisted task, the cognitive availability comprising at least one of an expertise of the user, an ability to extend short term memory or distractions associated with the user; dynamically determining one or more current needs for a user interface to be presented to the user; selecting, without user intervention, one of a plurality of predefined user interfaces whose characterized properties correspond to the dynamically determined cognitive availability of the user and current needs...*” McCann does not disclose such features.

As described above, McCann does not dynamically determine cognitive ability of the user or select an interface without user intervention. Additionally, McCann does not take into account the expertise of the user, nor does McCann dynamically determine one or more needs for a user interface to be presented to the user, nor does McCann select for presentation to the user an interface based upon these dynamically determined factors. Rather, McCann simply presents one of three possible versions of its lone interface based upon a single attribute of the user’s

situation, and not of any attribute of the user him or herself. For at least the foregoing reasons, McCann does not anticipate claim 20.

Independent claim 24 recites: “...*a first component capable of, for each of multiple defined user interfaces, characterizing properties of the defined user interface; a second component capable of determining during execution one or more current needs for a user interface to be presented to the user, wherein the determining includes determining cognitive load of the user, the cognitive loads includes a cognitive availability of the user that is a function of an amount of attention the user uses during a computer-assisted task; and a third component capable of selecting, without user intervention, during execution one of the defined user interfaces whose characterized properties correspond to the dynamically determined current needs, the selected user interface for presentation to the user...*” McCann does not disclose such features.

As discussed above, McCann does not disclose determining cognitive load of the user or selecting an interface without user intervention. Additionally, McCann does not disclose characterizing properties of the each defined user interface, determining during execution one or more current needs for a user interface to be presented to the user, or selecting during execution one of the defined user interfaces whose characterized properties correspond to the dynamically determined current needs. McCann does not determine anything dynamically, but rather responds to a selection from a soldier or a unit commander regarding one of three operational modes. McCann uses the selected operational mode to limit the information to be presented to a user. For at least the foregoing reasons, McCann does not anticipate claim 24.

Independent claim 26 recites: “...*means for, for each of multiple defined user interfaces, characterizing properties of the defined user interface; means for determining during execution one or more current needs for a user interface to be presented to the user, wherein the determining includes determining cognitive availability of the user, the cognitive availability is a function of an amount of attention the user uses during a computer-assisted task; and means for selecting, without user intervention, during execution one of the defined user interfaces whose characterized properties correspond to the dynamically determined current needs, the selected user interface for presentation to the user.*” McCann does not disclose such features.

McCann does not address the user individually, but only the user’s situation; and it does not determine cognitive availability of the user or select an interface without user intervention.

For at least the foregoing reasons, McCann does not anticipate claim 26.

Independent claim 27 recites: “...*determining multiple user interface elements that are available for presentation on the computing device; characterizing properties of the determined user interface elements; dynamically determining cognitive availability of the user, the cognitive availability is a function of an amount of attention the user uses during a computer-assisted task, without user intervention; **dynamically determining one or more current needs for a user interface to be presented to the user without user intervention**; generating a first user interface, the first user interface having user interface elements whose characterized properties correspond to the dynamically determined current needs and cognitive availability of the user; presenting the first user interface to the user; monitoring the user in order to produce information about the current cognitive ability of the user; **repeating the dynamically determining cognitive availability of the user, the cognitive availability is a function of an amount of attention the user uses during a computer-assisted task, without user intervention**; repeating the dynamically determining one or more current needs for a user interface to be presented to the user, without user intervention; generating a second user interface, the second user interface having user interface elements whose characterized properties correspond to the dynamically determined current needs and cognitive availability of the user; and presenting the second user interface to the user.*” McCann does not disclose such features.

As discussed above, McCann does not disclose dynamically determining cognitive ability of the user, nor does McCann disclose dynamically determining one or more current needs for a user interface to be presented to the user, without user intervention. Additionally, McCann does not disclose ***monitoring the situation and providing a different interface without user intervention***. The system of McCann utilizes one of three possible information sets based upon a choice of the user, or the user’s unit commander. This choice may determine which information elements are displayed to the user, but does not generate a user interface for presentation to the user based upon characteristics of the user and the user interface elements. For at least the foregoing reasons, McCann does not anticipate claim 27.

Independent claim 33 recites: “...*presenting a first user interface to the user; **without user intervention, determining that the current context has changed in such a manner that the first user interface is not appropriate for the user, the changed context including at least one of a change in a current location of the user, a change in a current mental state of the user, or***

*a change in one or more devices currently available to the user; selecting a second user interface that is appropriate for the user based at least in part on the current context and a current cognitive availability of the user, the current cognitive availability is a function of an amount of attention the user uses during a computer-assisted task...*” McCann does not disclose such features.

In the system of McCann, the information set for a single GUI is selected from among the possible information sets, or changed to one of the other possible information sets by either the individual soldier, or by the unit leader. The system of McCann ***does not select the interface, nor does it change interfaces without input from a user of the system.*** McCann does not discuss changes in the mental state of the user, or of the devices currently available to the user. For at least the foregoing reasons, McCann does not anticipate claim 33.

Independent claim 44 recites: “...***dynamically determining, without user intervention, one or more current characteristics of a user interface that is currently appropriate to be presented to the user, the determining based at least in part on the current context, and dynamically determining cognitive availability of the user, the cognitive availability is a function of an amount of attention the user uses during a computer-assisted task...***” McCann does not disclose such features.

As discussed supra, McCann does not discuss dynamically determining cognitive availability of a user. Additionally, McCann does not act without user intervention. McCann does not dynamically analyze the characteristics of its interface, nor does it identify certain characteristics as requirements for an interface to be presented to the user. McCann simply allows certain information sets to be available based upon the selected one of the three states; it does nothing dynamically. For at least the foregoing reasons, McCann does not anticipate claim 44.

Independent claim 57 recites: “...***dynamically determining a level of attention which the user can currently give to the user interface based in part on the cognitive availability of the user, the cognitive availability is a function of an amount of attention the user uses during a computer-assisted task; dynamically determining one or more current characteristics of a user interface that is currently appropriate to be presented to the user based at least in part on the determined level of attention; determining a user interface, without user intervention, that includes the determined characteristics...***” McCann does not disclose such features.

As discussed above, McCann does not utilize the cognitive ability of a user, nor does it dynamically determine anything without user intervention, but rather is set to one of three possible states by either a soldier or the soldier's unit commander. Additionally, the claimed invention makes determinations about the user, and also makes determinations about the current characteristics of the user interface. McCann merely has a single factor that is determined, the operational state of the soldier. For at least the foregoing reasons, McCann does not anticipate claim 57.

Independent claim 62 recites: “...*retrieving one or more definitions for dynamically combining available user interface elements in an appropriate manner so as to satisfy current needs; dynamically determining cognitive load of the user, the cognitive load includes a cognitive availability of the user that is a function of an amount of attention the user uses during a computer-assisted task; **selecting one of the retrieved definitions, without user intervention, based on current conditions, and the determined cognitive load of the user...***” McCann does not disclose such features.

As noted, McCann does not disclose dynamically determining the cognitive load of the user or acting without user intervention. Additionally, McCann does not disclose dynamically combining available user interface elements in an appropriate manner so as to satisfy current needs, selecting one of the retrieved definitions based on current conditions, and the determined cognitive load of the user so that available user interface elements can be combined in an appropriate manner to generate a user interface that is appropriate to be presented to the user. McCann does not combine elements to generate an interface, but rather, simply allows certain elements to be available based upon the chosen interface option. For at least the foregoing reasons, McCann does not anticipate claim 62.

Independent claim 65 recites: “...*retrieving one or more definitions for dynamically adapting available user interface elements to a type of computing device; dynamically determining cognitive availability of the user, the cognitive availability is a function of an amount of attention the user uses during a computer-assisted task; **selecting one of the retrieved definitions, without user intervention, based on current conditions, and the determined cognitive availability of the user...***” McCann does not disclose such features.

McCann does not disclose dynamically determining the cognitive load of the user, or retrieving definitions for dynamically adapting user elements, or acting without user

intervention. Moreover, McCann does not disclose adapting the user interface elements to the type of computing device. The system of McCann is designed to be used with a specific and unchanging set of hardware. For at least the foregoing reasons, McCann does not anticipate claim 65.

In view of at least the foregoing, it is submitted that McCann does not disclose each and every feature of applicants' claimed subject matter as recited in the subject independent claims and the claims that respectively depend therefrom. Accordingly, withdrawal of this rejection is respectfully requested.

**CONCLUSION**

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP1895US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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